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EXAMINER

KOENIG, ANDREW Y

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/396,429

Applicant(s)

HENDRICKS ET AL.

Examiner

Andrew Y. Koenig

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,14,18,19,23,24,28-32,34,37,40-43,45-50,52-56 and 58-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,14,18,19,23,24,28-32,34,37,40-43,45-50,52-56 and 58-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 13, filed 06 December 2005 with respect to rejection under 35 U.S.C. 112, first paragraph, written description have been fully considered and are persuasive. The rejection of claim 64 under 35 U.S.C. 112, first paragraph has been withdrawn.

With respect to claim 64 rejected under 35 U.S.C. 112, first paragraph, written description, the examiner indicated that there is no support for an upgrade decryption module as claimed, the applicant has responded by addressing the level D hardware upgrade of the digital audio tuner, which comprises a decryptor, which is known in the art for performing decryption. Consequently, the examiner treats the upgrade decryption module as having support in that there exists an audio upgrade module with audio decryption capabilities (see applicant's specification: fig. 12b, pg. 35-36, ll. 16-3, see remarks filed 06 December 2005, pg. 13, paragraph 5-6).

2. Applicant's arguments filed 06 December 2005 have been fully considered but they are not persuasive.

Regarding claim 1, the applicant argues that Graczyk, Banker, Palazzi, Granger, and Florin are silent on "interactive software stored in memory of said hardware upgrade to provide enhanced function capabilities and processing subscriber inputs with said interactive software.

The examiner disagrees; Graczyk teaches that the ROM (108) of the modem circuitry stores data to perform the functionality of produce digitized data signals from the voice signal and produce audio signals from the digital data. The examiner notes that a Read-Only Memory (ROM) stores the necessary data to perform these functions (col. 7, ll. 58-66). The claim merely recites that interactive software is stored in memory of said hardware upgrade, which is taught by Graczyk in that by storing a voice signal and producing audio signals from the digital data inherently requires some interaction in that the system require the ROM to make an outgoing message and record incoming messages (col. 7-8, ll. 69-14). Further, the use of the hardware upgrade as modem/Fax/answering machine provides enhanced function capabilities, and the hardware upgrade processor subscriber inputs with said interactive software in that the system of Graczyk records outgoing messages and can record incoming messages (col. 7-8, ll. 69-14). Further, Graczyk teaches a processor (col. 7, ll. 9-18), which reads on processing circuitry to process the inputs associated with the software.

Regarding claim 14, the applicant argues that Graczyk and Banker do not disclose "wherein the first hardware upgrade is a card inserted into the set top terminal to add a data modulation and demodulation function to the set top terminal such that data may be retrieved from the one or more headends and stored in a local storage and the terminal has an expansion card slot and wherein the interface comprises at least one card connector adapted for use with the expansion card slot."

The examiner disagrees; the combined systems of Graczyk, Banker, Palazzi, and Florin teaches this limitation. Graczyk discloses an expansion slot in figure 45 that accepts the interface connector as indicated in figure 41, wherein the interface of the card (as shown in figure 41) is adapted for use with the expansion slot in figure 45.

The examiner notes that Florin recognizes that modules can be added to the set top terminal (transceiver) using computer interfaces such as SCSI and serial ports (Florin: col. 10, ll. 20-32).

Regarding claim 24, the applicant argues that Graczyk, Banker, Palazzi, Granger, and Florin do not disclose, teach, or suggest any hardware upgrade for a set top terminal wherein the upgrade modem communicated with headend of an operation center.

The examiner disagrees; Graczyk, Banker, Palazzi, Granger, and Florin teach a hardware upgrade modem for a set top terminal, wherein the upgrade modem communicates with a headend, (Palazzi: abstract, col. 3, line 64 - col. 4, line 44 and col. 6, lines 17-38). However, the examiner has take Official Notice that an operations center (a central facility to a headend or master headend), one or more headends system are notoriously old and well-known communication stations that broadcast television signals to subscribers. At these stations (headend, central facilities), television programs are received, processed and prepared for transmission to subscribers. In the Office Action mailed 21 May 2003, the examiner relies on Esch (5,283,639) already of record, for disclosing an operations center (London 31) and

satellite broadcasting systems through the entire reference but not limited to figures 1-6, col. 3, ll. 45-65, col. 4, ll. 32-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined systems of Graczyk and Banker (if necessary) to include an operations center, one or more headends because these are typical places where television signals are received processed and prepared for transmission to subscribers.

Regarding claim 30, the applicant argues that Palazzi, Banker, and Florin do not disclose, teach, or suggest any upgrade modem for a set top terminal that is able to download data from at least one headend of a television program delivery system and also able to communicate with interactive service and on-line data outside of the television program delivery system. The examiner disagrees; the claims merely recite that the modem is capable of communicating with one or more headends and capable of communicating with as interactive services and an on-line database wherein the interactive service and the on-line database are outside of the television program delivery system (emphasis added). It is noted that any modem is capable of these features, however the examiner has provided the applicant with explicit evidence.

Specifically, the combined systems of Banker and Palazzi, wherein Banker discloses a modem (col. 4, lines 40-50) capable of communicating with one or more headend (10), wherein the receiver receives television program signals based on subscriber input (see the entire reference including but not limited to col. 4, lines 40-57);

and wherein modem downloads data from one or more headends to a local storage (col. 6, line 59 – col. 7, line 3 and col. 7, lines 24-28).

Additionally, the combined systems of Banker and Palazzi, wherein Palazzi discloses interactive services/on-line databases provided by the host databases that are external to the television program delivery system throughout the entire reference including but not limited to column 1, line 5 - column 4, line 45, column 5, lines 63-66 and column 9, line 60 - column. 10, line 35.

With respect to a hardware upgrade, Florin teaches this limitation in that Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation and demodulation to the television terminal (col. 10, ll. 21-26).

Regarding claim 42, the applicant argues that Palazzi, Banker, and Florin do not disclose, teach, or suggest providing a second upgrade to the set top terminal for storage and monitoring the information from the television program to retrieve stored data. Further, the applicant argues that Vogel does not bridge the substantial gap between Palazzi, Banker, and Florin, in that Vogel does not teach a second upgrade including monitoring the information from data received from the headend for retrieving stored data.

The examiner disagrees; The combined systems of Banker and Palazzi, wherein Palazzi discloses the various memory devices at col. 6, lines 18-45, 53-54, col. 7, lines 60, and col. 9, line 60 – col. 10, line 35.

The combined systems of Banker, Palazzi and Vogel teaches monitoring, because Vogel discloses monitoring for reception of the program schedule information and then retrieving digital data after the reception of the program schedule information in col. 3, line 2 - col. 4, line 5.

The mere addition of these elements teaches a second upgrade in that the meet the limitations of the claims and there is motivation for making the combination. Even the applicant's specification recognizes that upgrades do not necessarily need to be separate (see applicant's specification: pg. 36, ll. 27-28).

Regarding claims 43-44, 57, see argument above.

Regarding claims 52-54, see arguments above.

3. Applicant's arguments with respect to claims 60-64 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 60, the applicant argues Granger, Wachob, Florin, and Pond do not disclose, teach or suggest a STT including a first processor and an upgrade processor for communicating with the first processor and upgrade modem.

The examiner notes that claim 65 was not addressed in previous actions. Consequently, the examiner is providing the applicant with a non-final rejection and apologizes for any inconvenience to the applicant.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-9, 14, 16, 18, 19, and 23, 24, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graczyk in view of Banker, Palazzi, Granger, and Florin.

Considering claim 1, Graczyk discloses a system comprising:

- a) a television program delivery system (broadcast or cable TV) (col. 5, lines 62-68);
- b) a terminal (24,26) having a microprocessor and comprising a receiver (col. 4, line 63-66) adapted to receive at least some of the television program signals;
- c) a hardware upgrade (12) comprising:

- (c1) an interface (16450 interface) (col. 7, lines 9-18) to the terminal; and

- (c2) a modem (104) connected to the interface capable of communicating with one or more headends (central facilities), wherein the RC224AT processor (claimed microprocessor) is connected between the interface (16450) and the model (10464), see figure 2, col. 6, lines 24-38.

Further, Graczyk teaches that the upgrade circuit (44) is insertable into the computer via an ISA bus (col. 6, lines 62-67, figure 41).

Although Graczyk discloses a multipurpose television terminal (24,26) and that various modifications and alternative embodiments are apparent (col. 36, lines 14-20),

he fails to specifically disclose a set top terminal having a microprocessor instructions for prompting generation of menus and a hardware upgrade comprising communicating and downloading data from one or more headend to a local storage, and wherein the settop terminal receives television program signals based on subscriber input as recited in the claims.

Banker discloses a system comprising:

a) a settop terminal (40, figure 1) having microprocessor (128,136) instructions for prompting generation of menus and comprising: a television program receiver (100,150) for receiving television programs from one or more headends (10); and

b) a modem (col. 4, lines 40-50) capable of communicating with one or more headend (10), wherein the receiver receives television program signals based on subscriber input (see the entire reference including but not limited to col. 4, lines 40-57); and wherein modem downloads data from one or more headends to a local storage (col. 6, line 59 – col. 7, line 3 and col. 7, lines 24-28).

Banker's system facilitates an efficient two-way communication, menu selection between one or more headend and a subscriber terminal with data re-programmable and downloadable dynamic features.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk's system to include a set top terminal having a microprocessor instructions for prompting generation of menus and a downloading data from one or more headend to a local storage, and wherein the settop terminal receives television program signals based on subscriber input, as taught by Banker, for the

advantage of creating an efficient two-way, menu selection with dynamic re-programmable and downloadable data processing set top terminal in communication with one or more headend.

Banker fails to specifically disclose an output that accepts data signals from the modem and a modem that downloads data from one or more headend to a local storage as recited in the claim.

Palazzi discloses a television terminal comprising a television program receiver (11), a modem (4) an output (9, 10, 15) connected to the receiver (11) and modem (4), wherein the output accepts television program signals from the receiver and data signals from the modem and wherein the modem downloads data from one or more central facility (headend) to a local storage. Palazzi's system provides an efficient system for creating an interactive display terminal for accessing information stored at a central facility and for downloading data for later retrieval. See abstract, col. 3, line 64 - col. 4, line 44 and col. 6, lines 17-38.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker's system to include an output that accepts data signals from a modem and a modem that downloads data from a central facility (such as a headend) to a local storage, as taught by Palazzi, for the advantages of providing an efficient interactive display terminal that accesses information stored at a central facility and downloads data to a local storage for later retrieval.

In analogous art, Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation

and demodulation to the television terminal (col. 10, ll. 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk, Banker, and Palazzi by using a modem upgrade module and adding data modulation and demodulation to the television terminal with the upgrade as taught by Florin in order to provide an upgradeable set top terminal thereby increasing the functionality of the device while permitting the user to add hardware for additional functionality.

Graczyk teaches upgrading a computer system with a modem, further Banker teaches the use of a modem in a set top terminal, and Florin teaches a set top terminal with a modem upgrade; however Graczyk, Banker, and Florin are silent on a card insertable into the set top terminal. Granger teaches a set top converter (claimed set top terminal) that receives a switching module, which is an upgrade module (see figures 6 and 7, col. 7, lines 20-27), which equates to a card insertable into the set top terminal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk, Banker, and Florin by having an upgrade card insertable into the set top terminal as taught by Granger in order to provide additional functionality to an existing terminal and reducing the cost of the set top terminal before the upgrade.

Graczyk teaches that the ROM (108) of the modem circuitry stores data to perform the functionality of produce digitized data signals from the voice signal and produce audio signals from the digital data, wherein the ROM stores the instructions (col. 7, ll. 58-66, col. 7-8, ll. 69-14). Consequently, Graczyk teaches software that is

interactive in that the user can record audio information, wherein the ROM of Graczyk is stored in memory of the modem, which enhances functional capabilities. Graczyk teaches a processor (col. 7, ll. 9-18), which reads on processing circuitry to process the inputs associated with the software.

Claim 3 is met by the combined systems of Graczyk and Banker, wherein Graczyk discloses memory (108,110) connected to the processor (RC224) of the hardware upgrade (fig. 2).

Considering claims 4-9, the combined systems of Graczyk and Banker disclose monitoring financial news via a financial news network in col. 5, lines 3-14 (Graczyk). They fail to specifically disclose that the modem is capable of communicating with interactive service, the interactive service is outside the television program delivery system, the interactive service is selected from the group consisting of home shopping, airline reservations, news, financial information, advertisement, home banking and interactive text, communicating with an on-line database and the on-line database is outside the television program delivery system as recited in the claims.

Palazzi discloses a modem that is capable of communicating with several interactive services and/or on-line databases wherein the interactive services/on-line databases are outside the television network. This provides a terminal with the ability to efficiently communicate with various networks, interactive services and databases. See the entire reference including but not limited to column 1, line 5 - column 4, line 45, column 5, lines 63-66 and column 9, line 60 - column. 10, line 35.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined systems of Graczyk and Banker (if necessary) to include a modem capable of communicating with interactive service, the interactive service is outside the television program delivery system, the interactive service is selected from the group consisting of home shopping, airline reservations, news, financial information, advertisement, home banking and interactive text, communicating with an on-line database and the on-line database is outside the television program delivery system, as taught by Palazzi, for the advantage of providing a terminal with the ability to efficiently communicate with various networks, services and databases.

Regarding claim 14, Graczyk discloses a system comprising:

- a) a television program delivery system (broadcast or cable TV) (col. 5, lines 62-68);
- b) a terminal (24,26) having a microprocessor and comprising a receiver (col. 4, line 63-66) adapted to receive at least some of the television program signals;
- c) a hardware upgrade (12) comprising:
 - (c1) an interface (16450 interface) (col. 7, lines 9-18) to the terminal; and
 - (c2) a modem (104) connected to the interface capable of communicating with one or more headends (central facilities), wherein the RC224AT processor (claimed microprocessor) is connected between the interface (16450) and the model (10464), see figure 2, col. 6, lines 24-38.

Further, Graczyk teaches that the upgrade circuit (44) is insertable into the computer via an ISA bus (col. 6, lines 62-67, figure 41).

Although Graczyk discloses a multipurpose television terminal (24,26) and that various modifications and alternative embodiments are apparent (col. 36, lines 14-20), he fails to specifically disclose a set top terminal having a microprocessor instructions for prompting generation of menus and a hardware upgrade comprising communicating and downloading data from one or more headend to a local storage, and wherein the settop terminal receives television program signals based on subscriber input as recited in the claims.

Banker discloses a system comprising:

a) a settop terminal (40, figure 1) having microprocessor (128,136) instructions for prompting generation of menus and comprising: a television program receiver (100,150) for receiving television programs from one or more headends (10); and

b) a modem (col. 4, lines 40-50) capable of communicating with one or more headend (10), wherein the receiver receives television program signals based on subscriber input (see the entire reference including but not limited to col. 4, lines 40-57); and wherein modem downloads data from one or more headends to a local storage (col. 6, line 59 – col. 7, line 3 and col. 7, lines 24-28).

Banker's system facilitates an efficient two-way communication, menu selection between one or more headend and a subscriber terminal with data re-programmable and downloadable dynamic features.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk's system to include a set top terminal having a microprocessor instructions for prompting generation of menus and a downloading data from one or more headend to a local storage, and wherein the settop terminal receives television program signals based on subscriber input, as taught by Banker, for the advantage of creating an efficient two-way, menu selection with dynamic re-programmable and downloadable data processing set top terminal in communication with one or more headend.

Banker fails to specifically disclose an output that accepts data signals from the modem and a modem that downloads data from one or more headend to a local storage as recited in the claim.

Palazzi discloses a television terminal comprising a television program receiver (11), a modem (4) an output (9, 10, 15) connected to the receiver (11) and modem (4), wherein the output accepts television program signals from the receiver and data signals from the modem and wherein the modem downloads data from one or more central facility (headend) to a local storage. Palazzi's system provides an efficient system for creating an interactive display terminal for accessing information stored at a central facility and for downloading data for later retrieval. See abstract, col. 3, line 64 - col. 4, line 44 and col. 6, lines 17-38

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker's system to include an output that accepts data signals from a modem and a modem that downloads data from a central facility (such as

a headend) to a local storage, as taught by Palazzi, for the advantages of providing an efficient interactive display terminal that accesses information stored at a central facility and downloads data to a local storage for later retrieval.

In analogous art, Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation and demodulation to the television terminal (col. 10, ll. 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk, Banker, and Palazzi by using a modem upgrade module and adding data modulation and demodulation to the television terminal with the upgrade as taught by Florin in order to provide an upgradeable set top terminal thereby increasing the functionality of the device while permitting the user to add hardware for additional functionality.

Graczyk teaches upgrading a computer system with a modem, further Banker teaches the use of a modem in a set top terminal, and Florin teaches a set top terminal with a modem upgrade; however Graczyk, Banker, and Florin are silent on a card insertable into the set top terminal. Granger teaches a set top converter (claimed set top terminal) that receives a switching module, which is an upgrade module (see figures 6 and 7, col. 7, lines 20-27), which equates to a card insertable into the set top terminal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk, Banker, and Florin by having an upgrade card insertable into the set top terminal as taught by Granger in order to provide additional

functionality to an existing terminal and reducing the cost of the set top terminal before the upgrade.

Graczyk teaches that the ROM (108) of the modem circuitry stores data to perform the functionality of produce digitized data signals from the voice signal and produce audio signals from the digital data, wherein the ROM stores the instructions (col. 7, ll. 58-66, col. 7-8, ll. 69-14). Consequently, Graczyk teaches software that is interactive in that the user can record audio information, wherein the ROM of Graczyk is stored in memory of the modem, which enhances functional capabilities. Graczyk teaches a processor (col. 7, ll. 9-18), which reads on processing circuitry to process the inputs associated with the software.

The combined systems of Graczyk and Banker, wherein Graczyk discloses an expansion slot in figure 45 that accepts the interface connector as indicated in figure 41.

As for claim 18, Graczyk and Banker disclose an electronic visual communication system and more particularly a multi-purpose computerized television system (Graczyk, col. 1, lines 5-10). They also disclosed that various modifications and alternative embodiments are apparent to a person skill in the art. (Graczyk, col. 36, lines 14-22). However, they fail to specifically disclose that the terminal is an HDTV terminal as recited in the claim.

The examiner takes Official Notice that HDTV terminals are notoriously old and well-known terminals in the art for receiving high-resolution television signals and these terminals can be integrated with any other television receiving apparatus.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined systems of Graczyk and Banker to include the terminal to be a HDTV terminal because it is a well-known, readily available and modifiable terminal for receiving high-resolution television signals.

Claim 19 is met by the combined systems of Graczyk and Banker, wherein Graczyk discloses/illustrates the additional cards, connectors or modules in figures 42, 43 and 44. Note also that figure 45 illustrates the capability of accepting additional cards or boards or modules.

Claim 23 is met by the combined systems of Graczyk and Banker, wherein Graczyk discloses audio program reception hardware (see 18-figure 1 or 530-figure 43 or 510-figure 44).

Considering claim 24, Graczyk discloses a system comprising:

- a) a television program delivery system (broadcast or cable TV) (col. 5, lines 62-68);
- b) a terminal (24,26) having a microprocessor and comprising a receiver (col. 4, line 63-66) adapted to receive at least some of the television program signals;
- c) a hardware upgrade (12) comprising:
 - (c1) an interface (16450 interface) (col. 7, lines 9-18) to the terminal; and
 - (c2) a modem (104) connected to the interface capable of communicating with one or more headends (central facilities), wherein the RC224AT processor (claimed microprocessor) is connected between the interface (16450) and the model (10464), see figure 2, col. 6, lines 24-38.

Further, Graczyk teaches that the upgrade circuit (44) is insertable into the computer via an ISA bus (col. 6, lines 62-67, figure 41).

Although Graczyk discloses a multipurpose television terminal (24,26) and that various modifications and alternative embodiments are apparent (col. 36, lines 14-20), he fails to specifically disclose a set top terminal having a microprocessor instructions for prompting generation of menus and a hardware upgrade comprising communicating and downloading data from one or more headend to a local storage, and wherein the settop terminal receives television program signals based on subscriber input as recited in the claims.

Banker discloses a system comprising:

a) a settop terminal (40, figure 1) having microprocessor (128,136) instructions for prompting generation of menus and comprising: a television program receiver (100,150) for receiving television programs from one or more headends (10); and

b) a modem (col. 4, lines 40-50) capable of communicating with one or more headend (10), wherein the receiver receives television program signals based on subscriber input (see the entire reference including but not limited to col. 4, lines 40-57); and wherein modem downloads data from one or more headends to a local storage (col. 6, line 59 – col. 7, line 3 and col. 7, lines 24-28).

Banker's system facilitates an efficient two-way communication, menu selection between one or more headend and a subscriber terminal with data re-programmable and downloadable dynamic features.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk's system to include a set top terminal having a microprocessor instructions for prompting generation of menus and a downloading data from one or more headend to a local storage, and wherein the settop terminal receives television program signals based on subscriber input, as taught by Banker, for the advantage of creating an efficient two-way, menu selection with dynamic re-programmable and downloadable data processing set top terminal in communication with one or more headend.

Banker fails to specifically disclose an output that accepts data signals from the modem and a modem that downloads data from one or more headend to a local storage as recited in the claim.

Palazzi discloses a television terminal comprising a television program receiver (11), a modem (4) an output (9, 10, 15) connected to the receiver (11) and modem (4), wherein the output accepts television program signals from the receiver and data signals from the modem and wherein the modem downloads data from one or more central facility (headend) to a local storage. Palazzi's system provides an efficient system for creating an interactive display terminal for accessing information stored at a central facility and for downloading data for later retrieval. See abstract, col. 3, line 64 - col. 4, line 44 and col. 6, lines 17-38

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker's system to include an output that accepts data signals from a modem and a modem that downloads data from a central facility (such as

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a headend) to a local storage, as taught by Palazzi, for the advantages of providing an efficient interactive display terminal that accesses information stored at a central facility and downloads data to a local storage for later retrieval.

In analogous art, Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation and demodulation to the television terminal (col. 10, ll. 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk, Banker, and Palazzi by using a modem upgrade module and adding data modulation and demodulation to the television terminal with the upgrade as taught by Florin in order to provide an upgradeable set top terminal thereby increasing the functionality of the device while permitting the user to add hardware for additional functionality.

Graczyk teaches upgrading a computer system with a modem, further Banker teaches the use of a modem in a set top terminal, and Florin teaches a set top terminal with a modem upgrade; however Graczyk, Banker, and Florin are silent on a card insertable into the set top terminal. Granger teaches a set top converter (claimed set top terminal) that receives a switching module, which is an upgrade module (see figures 6 and 7, col. 7, lines 20-27), which equates to a card insertable into the set top terminal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk, Banker, and Florin by having an upgrade card insertable into the set top terminal as taught by Granger in order to provide additional

functionality to an existing terminal and reducing the cost of the set top terminal before the upgrade.

Graczyk teaches that the ROM (108) of the modem circuitry stores data to perform the functionality of produce digitized data signals from the voice signal and produce audio signals from the digital data, wherein the ROM stores the instructions (col. 7, ll. 58-66, col. 7-8, ll. 69-14). Consequently, Graczyk teaches software that is interactive in that the user can record audio information, wherein the ROM of Graczyk is stored in memory of the modem, which enhances functional capabilities. Graczyk teaches a processor (col. 7, ll. 9-18), which reads on processing circuitry to process the inputs associated with the software.

Graczyk and Banker disclose receiving television signals from broadcast and cable television stations (col. 5, lines 61-68). Graczyk and Banker disclose receiving television signals from broadcast and cable television stations (col. 5, lines 61-68). However, they fail to specifically disclose an operations center and one or more headends as recited in the claims.

The examiner takes Official Notice that an operations center (a central facility to a headend or master headend), one or more headends system are notoriously old and well-known communication stations that broadcast television signals to subscribers. At these stations (headend, central facilities), television programs are received, processed and prepared for transmission to subscribers.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined systems of Graczyk and Banker (if

necessary) to include an operations center, one or more headends because these are typical places where television signals are received processed and prepared for transmission to subscribers.

Regarding claims 28 and 29, Graczyk and Banker disclose receiving television signals from broadcast and cable television stations (col. 5, lines 61-68), but are silent on satellite broadcast systems and an HDTV terminal. Official Notice is taken that satellites and HDTV terminals are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk and Banker by using satellites and HDTV terminals in order to provide services via different communication mediums while also enhancing the quality of the video programming.

6. Claims 30-32, 34, 37, 40-41, 45-50, 55, 56 and 58-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palazzi (of record) in view of Banker et al. (Banker), Florin, and Banker.

Considering claim 30, Banker discloses a television terminal (40,44, or 48) having microprocessor (128,136) instructions for prompting generation of menus, the television terminal comprising:

- a) a television program receiver (100,150) for receiving television programs from one or more headends (10);
- b) an interface (124, 126) to the television terminal for receiving and processing subscriber input (col. 5, lines 7-25);

c) modem (col. 4, lines 40-50) capable of communicating with one or more headend (10), wherein the receiver receives television program signals based on subscriber input (see the entire reference including but not limited to col. 4, lines 40-57), wherein the terminal downloads data from one or more headends to a local storage (col. 6, line 59 – col. 7, line 3 and col. 7, lines 24-28);

d) an output (142, TV 42) connected to the receiver (100,150) and the modem, wherein the output accepts television program signals from the receiver.

However, Banker fails to specifically disclose an output that accepts data signals from the modem and a modem that downloads data from one or more headend to a local storage as recited in the claim.

Palazzi discloses a television terminal comprising a television program receiver (11), a modem (4) an output (9, 10, 15) connected to the receiver (11) and modem (4), wherein the output accepts television program signals from the receiver and data signals from the modem and wherein the modem downloads data from one or more central facility (headend) to a local storage. Palazzi's system provides an efficient system for creating an interactive display terminal for accessing information stored at a central facility and for downloading data for later retrieval. See abstract, col. 3, line 64 - col. 4, line 44 and col. 6, lines 17-38

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker's system to include an output that accepts data signals from a modem and a modem that downloads data from a central facility (such as a headend) to a local storage, as taught by Palazzi, for the advantages of providing an

efficient interactive display terminal that accesses information stored at a central facility and downloads data to a local storage for later retrieval.

Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker's system (if necessary) to include downloading data from a headend to local storage in a television terminal via a modem since Palazzi demonstrated that modems are used to receive data for local storage in a television terminal from central facilities.

Palazzi and Banker both teaches the use of modems, further Banker teaches the use of a modem in a set top terminal; however Palazzi and Banker are silent on a set top terminal with a modem hardware upgrade.

In analogous art, Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation and demodulation to the television terminal (col. 10, ll. 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker and Palazzi by using a modem upgrade module and adding data modulation and demodulation to the television terminal with the upgrade as taught by Florin in order to provide an upgradeable set top terminal thereby increasing the functionality of the device while permitting the user to add hardware for additional functionality.

Banker teaches the use of a modem in a set top terminal, and Florin teaches a set top terminal with a modem upgrade; however Banker, Palazzi, and Florin are silent on a card insertable into the set top terminal. Granger teaches a set top converter

(claimed set top terminal) that receives a switching module, which is an upgrade module (see figures 6 and 7, col. 7, lines 20-27), which equates to a card insertable into the set top terminal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker, Palazzi and Florin by having an upgrade card insertable into the set top terminal as taught by Granger in order to provide additional functionality to an existing terminal and reducing the cost of the set top terminal before the upgrade.

The combined systems of Banker and Palazzi, wherein Palazzi discloses interactive services/on-line databases provided by the host databases that are external to the television program delivery system throughout the entire reference including but not limited to column 1, line 5 - column 4, line 45, column 5, lines 63-66 and column 9, line 60 - column. 10, line 35.

Claim 31 is met by the combined systems of Banker and Palazzi, wherein Banker discloses television (42,46 or 50, figure 1) and Palazzi discloses television (15).

Claim 32 is met by the combined systems of Banker and Palazzi, wherein Palazzi discloses a connector port (10) and Banker's modulator (142) is inherently connected to television (42) via a connector port.

Claim 34 is met by the combined systems of Banker and Palazzi, wherein Banker discloses a memory (137,134) and Palazzi discloses a memory at col. 6, lines 18-45, 53-54, col. 7, lines 62-68 and col. 9, lines 20-40.

Claim 37 is met by the combined systems of Banker and Palazzi, wherein Palazzi discloses interactive services/on-line databases provided by the host databases that are external to the television program delivery system throughout the entire reference including but not limited to column 1, line 5 - column 4, line 45, column 5, lines 63-66 and column 9, line 60 - column. 10, line 35.

Claim 40 are met by the combined systems of Banker and Palazzi, wherein Palazzi discloses online database(s) containing travel information, stock quotation and other data throughout the reference including but not limited to col. 1, lines 15-23, col. 3, lines 25-60 and col. 9, line 60 - col. 10, line 35.

Claim 41 are met by the combined systems of Banker and Palazzi, wherein Palazzi discloses HDTV capability in col. 6, lines 55-64.

Considering claim 42, Banker discloses a method for delivering television programs through a television delivery system (figure 1) with menu selection of programs (figures 5-9) comprising

- a) receiving (100,150) a television program from one or more headends (10);
- b) receiving subscriber input through an interface (124, 126) within a set top terminal, the set top terminal having a microprocessor (128,136) instructions for prompting generation of menus (col. 5, lines 7-25);
- c) communicating through a modem (col. 4, lines 40-50) with one or more headend (10), comprising transmitting data based on subscriber input (see the entire reference including but not limited to col. 4, lines 40-57); and

d) displaying television programs.

However, Banker fails to specifically disclose receiving data from one or more headend and displaying television program and/or information based on the received data as recited in the claim.

Palazzi, discloses a method comprising:

a) receiving a television program (11) (col. 7, lines 54-61);

b) receiving subscriber input (col. 5, lines 63-66 & col. 8, line 23 - col. 9, line 20);

c) communicating through a modem comprising:

(c1) transmitting data based on subscriber input via (keyboard 12) (col. 7, line 62 - col. 9, line 20)

(c2) receiving data (col. 5, lines 63-66 and col. 9, lines 2-20); and

d) displaying the television program and/or information based on the received data (see the entire reference including but not limited to col. 3, line 64 - col. 4, line 16, col. 7, lines 54-61 and col. 9, lines 4-29). Palazzi's system provides an efficient system for creating an interactive display terminal for accessing information stored in remote computer databases. See abstract, col. 3, line 64 - col. 4, line 44.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker's system to include receiving data from one or more headend and displaying television program and/or information based on the received data, as taught by Palazzi, for the advantages of providing an efficient interactive display terminal that accesses information stored in remote computer databases and that provides a display of television programs and/or information.

Palazzi and Banker both teaches the use of modems, further Banker teaches the use of a modem in a set top terminal; however Palazzi and Banker are silent on a set top terminal with a hardware upgrade. Granger teaches a set top converter (claimed set top terminal) that receives a switching module, which is an upgrade module (see figures 6 and 7, col. 7, lines 20-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk and Banker by having an upgrade for a set top terminal as taught by Granger in order to provide additional functionality to an existing terminal and reducing the cost of the set top terminal before the upgrade.

Palazzi and Banker both teaches the use of modems, further Banker teaches the use of a modem in a set top terminal; however Palazzi, Banker, and Granger are silent on a set top terminal with a modem hardware upgrade.

In analogous art, Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation and demodulation to the television terminal (col. 10, ll. 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker, Palazzi, and Granger by using a modem upgrade module and adding data modulation and demodulation to the television terminal with the upgrade as taught by Florin in order to provide an upgradeable set top terminal thereby increasing the functionality of the device while permitting the user to add hardware for additional functionality.

The combined systems of Banker and Palazzi, wherein Palazzi discloses the various memory devices at col. 6, lines 18-45, 53-54, col. 7, lines 60, and col. 9, line 60 – col. 10, line 35.

Claims 45-49 are met by the combined systems of Banker and Palazzi, wherein Palazzi discloses interactive services/on-line databases provided by the host databases that are external to the television program delivery system throughout the entire reference including but not limited to column 1, line 5 - column 4, line 45, column 5, lines 63-66 and column 9, line 60 - column. 10, line 35.

Claim 50 is met by the combined systems of Banker and Palazzi, wherein Palazzi discloses that online database contains travel information, stock quotation and other data throughout the reference including but not limited to col. 1, lines 15-23, col. 3, lines 25-60 and col. 9, line 60 - col. 10, line 35.

Claim 55 is met by the combined systems of Banker and Palazzi, wherein Palazzi discloses processing of stored digital data throughout the reference including but not limited col. 6, lines 18-64 and col. 9, lines 20-40.

Claim 56 is met by the combined systems of Banker and Palazzi, wherein Palazzi discloses stored data concerning banking services (economics) and any other local national or regional information services (reference) throughout the entire reference including but not limited to col. 9, line 60 - col. 10, line 4.

Claim 58 is met by the combined systems of Banker and Palazzi, wherein Palazzi discloses remote input from keypad (16), keyboard (12) or the keyboard connected to the CPU via a wireless link (see illustration in figure 1).

Claim 59 is met by is met by the combined systems of Banker and Palazzi, wherein Banker discloses menu generation in figures 5-9 and Palazzi discloses generating menus at col. 9, lines 13-40 and col. 10, lines 16-18.

8. Claims 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banker, Palazzi, and Florin in view of Vogel (of record).

Considering claim 42, Banker discloses a method for delivering television programs through a television delivery system (figure 1) with menu selection of programs (figures 5-9) comprising

- a) receiving (100,150) a television program from one or more headends (10);
- b) receiving subscriber input through an interface (124, 126) within a set top terminal, the set top terminal having a microprocessor (128,136) instructions for prompting generation of menus (col. 5, lines 7-25);
- c) communicating through a modem (col. 4, lines 40-50) with one or more headend (10), comprising transmitting data based on subscriber input (see the entire reference including but not limited to col. 4, lines 40-57); and
- d) displaying television programs.

However, Banker fails to specifically disclose receiving data from one or more headend and displaying television program and/or information based on the received data as recited in the claim.

Palazzi, discloses a method comprising:

- a) receiving a television program (11) (col. 7, lines 54-61);
- b) receiving subscriber input (col. 5, lines 63-66 & col. 8, line 23 - col. 9, line 20);
- c) communicating through a modem comprising:
 - (c1) transmitting data based on subscriber input via (keyboard 12) (col. 7, line 62 - col. 9, line 20)
 - (c2) receiving data (col. 5, lines 63-66 and col. 9, lines 2-20); and
- d) displaying the television program and/or information based on the received data (see the entire reference including but not limited to col. 3, line 64 - col. 4, line 16, col. 7, lines 54-61 and col. 9, lines 4-29). Palazzi's system provides an efficient system for creating an interactive display terminal for accessing information stored in remote computer databases. See abstract, col. 3, line 64 - col. 4, line 44.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker's system to include receiving data from one or more headend and displaying television program and/or information based on the received data, as taught by Palazzi, for the advantages of providing an efficient interactive display terminal that accesses information stored in remote computer databases and that provides a display of television programs and/or information.

Palazzi and Banker both teaches the use of modems, further Banker teaches the use of a modem in a set top terminal; however Palazzi and Banker are silent on a set top terminal with a hardware upgrade. Granger teaches a set top converter (claimed set top terminal) that receives a switching module, which is an upgrade module (see figures 6 and 7, col. 7, lines 20-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graczyk and Banker by having an upgrade for a set top terminal as taught by Granger in order to provide additional functionality to an existing terminal and reducing the cost of the set top terminal before the upgrade.

Palazzi and Banker both teaches the use of modems, further Banker teaches the use of a modem in a set top terminal; however Palazzi, Banker, and Granger are silent on a set top terminal with a modem hardware upgrade.

In analogous art, Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation and demodulation to the television terminal (col. 10, ll. 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Banker, Palazzi, and Granger by using a modem upgrade module and adding data modulation and demodulation to the television terminal with the upgrade as taught by Florin in order to provide an upgradeable set top terminal thereby increasing the functionality of the device while permitting the user to add hardware for additional functionality.

The combined systems of Banker and Palazzi, wherein Palazzi discloses the various memory devices at col. 6, lines 18-45, 53-54, col. 7, lines 60, and col. 9, line 60 – col. 10, line 35.

The combined systems of Banker, Palazzi and Vogel teaches monitoring, because Vogel discloses monitoring for reception of the program schedule information and then retrieving digital data after the reception of the program schedule information in col. 3, line 2 - col. 4, line 5.

Considering claims 43-44, Banker and Palazzi disclose receiving various types of data but they fail to specifically disclose that the data is information concerning television program and that the information is selected from a group consisting of quizzes, facts, geographical information and product information as recited in the claims.

Vogel discloses data/information concerning television programs (program schedule). Program schedule information includes facts and description of television programs. See the entire reference including but not limited to col. 3, lines 45-65 and col. 8, lines 36-46.

It would have been obvious to one of ordinary skill in the art at the time the invention was made at the time the invention was made to modify the combined systems of Banker and Palazzi to include information concerning a television program and that the information is to be selected from a group consisting of at least quizzes, facts, geographical information and product information, as taught by Vogel, for the

typical advantage of receiving program schedule information about programs to inform viewers about current and future television programs.

6. Claims 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banker, Palazzi, and Florin in view of Sprague (of record).

Considering claims 52 -54, the combined systems of Banker and Palazzi disclose that various types of memory devices may be used (Palazzi, col. 6, lines 34-38).

However, they fail to specifically disclose that the memory device is a CD-ROM as recited in the claims.

Sprague discloses that CD-ROMS are conventional and commercially available memory devices for storing data or information. See col. 2, lines 6-39 and col.19, lines 1-16.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined systems of Banker and Palazzi to include the memory device to be a CD-ROM, as taught by Sprague, for the typical advantage of using a conventional and commercially available device to store data.

7. Claims 60, 63, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Granger in view of Wachob (U.S. Patent 5,231,494), Florin, and Graczyk.

Regarding claim 60, Granger teaches a set top converter (claimed set top terminal) that receives a switching module, which upgrades the capabilities of the

converter (see figures 6 and 7, col. 7, lines 20-27), wherein the switching module is a card insertable into the set top converter.

Granger teaches receiving and displaying television signals on a television (col. 6, ll. 52-59). Granger is silent on the set top converter receiving compressed and decompressing, a set top terminal interface for enabling communication with the set top terminal, and a modem for providing on-line communications with a content provider.

In analogous art, Wachob teaches receiving and decompressing television signals for display (col. 6, ll. 7-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Granger by receiving compressed signals and decompressing the signals for display as taught by Wachob in order to more efficiently use bandwidth in the channel, thereby enabling more information to be sent to the user.

Granger teaches a card insertable as a hardware upgrade, but is silent on a set top terminal with a modem hardware upgrade.

In analogous art, Florin teaches upgrade modules such as a modem, where a modem by definition is a modulator and demodulation, and thus adds data modulation and demodulation to the television terminal (col. 10, ll. 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Granger and Wachob by using a modem upgrade module and adding data modulation and demodulation to the television terminal with the upgrade as taught by Florin in order to provide an upgradeable set top terminal thereby increasing the

functionality of the device while permitting the user to add hardware for additional functionality.

The combination of Granger, Wachob, and Florin teaches an interface for enabling communication with the set top terminal in that the card is insertable into the device, as discussed above.

The combination of Granger, Wachob, and Florin teaches a STT including a first processor for controlling said circuitry (Wachob: fig. 2, label 64).

The combination of Granger, Wachob, and Florin are silent on an upgrade processor for communicating with the first processor via said STT interface, wherein said upgrade processor controls said upgrade modem. In analogous art, Graczyk a modem (104) connected to the interface wherein the RC224AT processor (claimed microprocessor) is connected between the interface (16450) and the model (10464), see figure 2, col. 6, lines 24-38.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Granger, Wachob, and Florin by using an upgrade processor for communicating with the first processor via said STT interface, wherein said upgrade processor controls said upgrade modem as taught by Graczyk in order to efficiently process information, while coordinating the modem thereby enabling the modem to provide useful information to the user.

Regarding claim 63, the combination of Granger, Wachob and Florin teaches a microprocessor connected between the interface and the modem.

Regarding claim 64, the combination of Granger, Graczyk, and Wachob teaches a tuner for selecting a data stream, a demodulator, and a demultiplexer (col. 6, ll. 7-24), but is silent on the data being coupled to an upgrade decryption module. Official Notice is taken that a decryptor is well known in the art, which equates to an upgrade decryption module in that by decryption adds the additional benefit of protecting data, which is an "upgrade" to systems without decryption modules. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Granger, Wachob, and Florin by decrypting data in order to enhance the security of information.

8. Claims 61 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Granger, Wachob, Florin, and Graczyk in view of Pond (U.S. Patent 5,329,590).

Regarding claim 61, Granger, Graczyk, Wachob, and Florin are silent on the content being something other than a television program signals. In analogous art, Pond teaches communicating with the headend for sending billing information and downloading a list of program events (col. 8, ll. 44-59), which is content other than said television program signals. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Granger, Graczyk, Wachob, and Florin by retrieving information other than television signals as taught by Pond in order to provide additional information to the user.

Regarding claim 62, the combination of Granger, Graczyk, Wachob, Florin and Pond has been addressed in the discussion of claim 61; Pond teaches downloading

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data from a central provider to local storage in order to display the receiving information to the viewer (col. 8, ll. 44-59).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Koenig whose telephone number is (571) 272-7296. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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